

A NEW GENUS OF VELIIDAE FROM MEXICO  
(HEMIPTERA)

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ABSTRACT—*Aegilipsovelia*, new genus, is erected to hold *A. origami*, n. sp. (type-species), *A. libasa*, n. sp. and *A. malkini* (Drake & Hussey), n. comb. The new genus is compared with *Microvelia* Westwood, and *Kirkaldya* Torre-Bueno is restored as a subgenus of *Microvelia*.

The water striders upon which this paper is based were collected during the course of an expedition supported by the University of Colorado Museum; hence all types will be deposited in that Museum. For all measurements given, 60 units equal 1 mm.

*Aegilipsovelia*, n. gen.  
(Gr. *Aegilips*; sheer, steep + *velia*)

Antenna long, slender; first segment at least twice as long as distance from base of antenna to apex of head. Head with median longitudinal furrow, attaining hind margin of vertex, ending in a pit or depression; a single curved hair arising from the middle of the posterior margin of each eye, longer than in *Microvelia* Westwood.

Body shape rather long and slender in male, somewhat broader and variable in female. Pronotum short, subequal or shorter than anterior lobe of mesonotum.

Posterior tibia of male subequal in length to that of body; somewhat shorter in female. Tarsi characteristic; claws very long, subequal in length to first tarsal segment; all tarsi with a long, curved, leaf-like structure (fig. 1 B) arising from base of claws (fig. 1 C) and extending well beyond apex of tarsus.

Other characters similar to the *americana* group of *Microvelia*.

This genus is close to the *americana* group of the genus *Microvelia*, but differs in the longer antenna and hind tibia, much longer claws, and the long leaf-like structure arising from the base of the claws.

A similar but much shorter leaf-like structure is present in the *Microvelia americana* Uhler group, not extending beyond the apex of the tarsi. While a detailed microscopic examination of the tarsi of the *Microvelia pulchella* Westwood group has not been made, no such leaf-like structure can be observed under 60 power magnification. Therefore, the subgenus *Kirkaldya*, proposed by Torre Bueno (1910) and suppressed by Parshley (1921), is hereby restored to subgeneric rank, and may deserve generic status. This question will be discussed further in another publication.

The genus *Aegilipsovelia* is ecologically as well as morphologically distinct from *Microvelia*, the former being found on seeping vertical rock faces whereas the latter lives on the earth or in emergent vegetation along the edges of ponds or streams. Presumably, the extremely

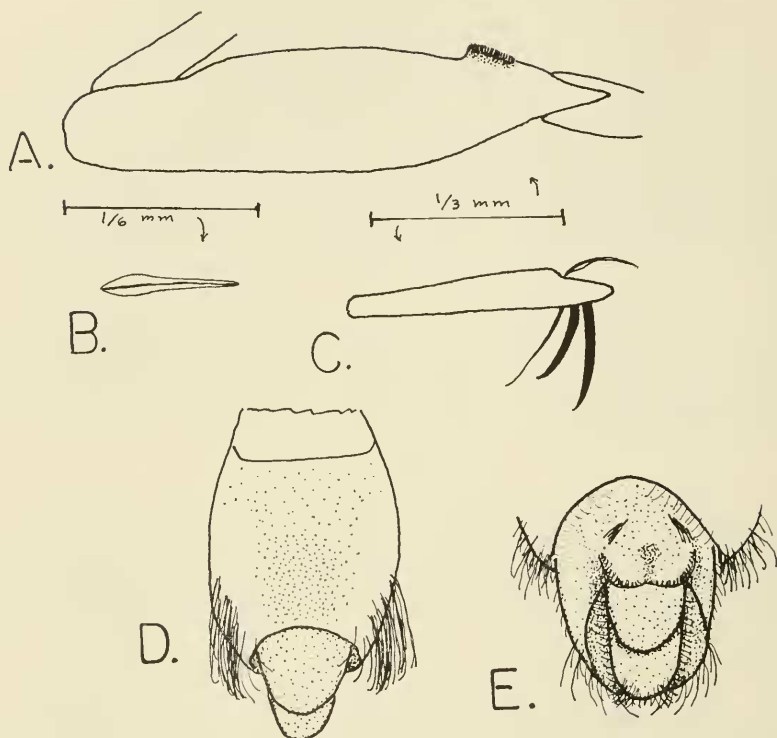


FIG. 1. Characters of *Aegilipsovelia*, n. gen.: A, *origami*, n. sp., fore femur, ♂; B, same, leaf-like structure of tarsus; C, same, 2nd tarsal segment; D, same, ♂ genital capsule, removed; E, *libasa*, n. sp., ♂ genital segments.

long claws are an adaptation to this environment, and perhaps the leaf-like structures are also. Mayr, Linsley and Usinger (1953) point out that a "genus is . . . a group of species adapted for a particular mode of life," and certainly the generic characters of *Aegilipsovelia* are adaptive and meet this criterion very well.

Type-species: *Aegilipsovelia origami*, n. sp.

#### KEY TO THE SPECIES OF *Aegilipsovelia*

1. Female with abdomen folded dorsally; with two dorsally projecting tubercles on first abdominal tergite (fig. 1). Male with a mushroom-shaped process on fore femur ..... **origami**, n. sp.  
 Female abdomen not folded; without tubercles. Fore femur of male not modified ..... 2
2. Pronotum, mesonotum and each abdominal tergite with a median bright orange brown spot ..... **malkini** (Drake & Hussey)  
 Pronotum with two orange brown spots, one each side of center; remainder of tergites deep grey or black ..... **libasa**, n. sp.

**Aegilipsovelia malkini** (Drake and Hussey), n. comb.

*Microvelia malkini* Drake and Hussey, 1955, Fla. Ent. 38:109 (Nayarit, Mexico).

The material at hand was taken somewhat north of the type locality, on a seeping rock face. This peculiar habitat was noted also for the type locality (Drake & Hussey, 1955).

*Material*: 3♂♂, 1♀, Mexico, Santa Lucia, CL 1019, 20 April 1964, J. T. & M. S. Polhemus.

**Aegilipsovelia libasa**, n. sp.

(Fig. 1E)

*Male*: Slender, black; oval spot on each side of center of pronotum, posterior margin of pronotum, margins of acetabulae, ventral portion of head, posterior margin of last abdominal ventrite, venter of genital segments, dorsal surfaces of legs, orange-brown; ventral surfaces of legs yellowish. Dorsum of body covered with short decumbent golden pubescence; silvery patches on anterolateral margins of pronotum, center of posterior lobe of mesonotum, all of abdominal tergites 1, 2, and 6, anterior half of 3 and 7, posterolateral angles of head; longer hairs on posterolateral margins of abdominal tergite 7, first genital segment's venter covered with short silvery pubescence.

Head with glabrous median furrow on vertex, wider anteriorly, wide portion terminating on a level with anterior margins of eyes; very narrow from there to clypeus; posterior margin with weak transverse carina medially; eyes separated by 1.5 times the width of an eye (21/13); rostrum reaching almost to middle coxae.

Pronotum short, essentially as in *Microvelia americana* Uhler; rear margin projecting slightly caudad medially; anterolateral angles broadly rounded, lateral margins parallel posteriorly; length: width, 18:50. Anterior lobe of mesonotum trapezoidal in shape, lateral margins slightly curved, posterior margin faintly sinuate; posterior lobe depressed adjacent to posterolateral margins of anterior lobe; length, anterior:posterior lobe, 19:11. Abdominal tergites 1-5 subequal in length (10-12), tergite 6 slightly longer (14), tergite 7 longest (28); tergites 6-7 with narrow median longitudinal strip free of pubescence, faintly shining and very finely rugulose. Genital segments projecting caudad from tergite 7. Connexiva semi-vertical, narrowing caudad, without spines or processes.

Abdominal ventrites 4-6 shallowly depressed medially; ventrite 7 emarginate on posterior margin. Basal ventral portion of genital segment 1 sharply raised laterally, projecting caudad onto second genital segment, deeply excavated medially (fig. 1 E, twisted slightly in holotype; see discussion.).

Antenna very long, slender; deep brown except base of segment 1 orange brown; thickly clothed with short hairs, scattered longer hairs on segment 4; proportions I-IV, 29:33:37:37. Fore tibia with short comb (9); measurements of legs:

	Femur	Tibia	Tarsal 1	Tarsal 2
Anterior	64	53	25	—
Middle	90	87	12	21
Posterior	122	147	10	25

Characteristics of tarsi as noted in generic description.

Length 3.17 mm., width 0.95 mm. (across metanotum).

*Female*: Similar to male but broader; widest across abdominal tergite 4 (73). Connexiva flat. Abdominal tergite 8 broadly exposed, set into a rectangular notch in tergite 7, but much shorter than tergite 7 (10/17).

Length 3.15 mm., width 1.2 mm.

*Material*: Holotype (♂), Allotype (♀) and 1♀ paratype, Mexico, Durango, 7 mi. W of Los Bancos, CL 1017, 20 April 1964, J. T. & M. S. Polhemus. The paratype will be found in the Polhemus collection.

***Aegilipsovelia origami*, n. sp.**

(Figs. 1A-1D, 2)

*Male*: Elongate, black; rectangular spot each side of center and rear margin of pronotum, connexiva, entire ventral surface (excepting most of pleura), orange brown; legs lighter ventrally, yellowish. Entire body covered with very short, decumbent golden pubescence; silver patches on median portion of posterior lobe of mesonotum, first three abdominal tergites, lateral portions of other abdominal tergites, inner portion of connexivium.

Head with median glabrous furrow on vertex as in *A. libasa* n.sp.; eyes separated by more than twice the width of an eye (23/10); rostrum reaching middle coxae.

Pronotum short (width/length: 52/17); very slightly sinuate on rear margin; anterolateral angles broadly rounded, lateral margins parallel posteriorly. Anterior lobe of mesonotum trapezoidal in shape, lateral margins almost straight, posterior margin straight; posterior lobe deeply depressed adjacent to posterolateral angles of anterior lobe; length, anterior/posterior lobes: 20/14. Metanotum exposed at posterolateral angles. Abdominal tergite 1 short (6), tergites 2-6 subequal (8/9), tergite 7 longest (21); tergites 4-7 with a median longitudinal strip free of pubescence, faintly shining, frosted, faintly and finely rugulose, ending in middle of tergite 7. Genital segments projecting slightly caudad from tergite 7. Connexivium flat, almost parallel along tergites 1-5, narrowing along tergites 6-7, apex without spines or processes.

Abdominal ventrites 3-7 slightly depressed medially; posterior margin of ventrite 7 linear. Genital segment 1 shallowly excavated ventrally, set with long hairs (fig. 1D).

Antenna very long, slender, deep brown, except basal  $\frac{1}{10}$  of segment 1 orange brown; thickly clothed with short hairs, scattered longer hairs on segment 4; proportions I-IV, 31:36:34:37. Fore tibia with short comb, about one-third as long as tibia (15/50); fore femur with mushroom shaped process (fig. 1A); measurements of legs:

	Femur	Tibia	Tarsal 1	Tarsal 2
Anterior	53	50	18	—
Middle	74	77	8	23
Posterior	104	123	12	25

Length 2.65 mm., width 0.9 mm. (across metanotum)

*Female*: Similar to male in many respects, but more robust; rear margin of pronotum more strongly sinuate; hind lobe of mesonotum produced slightly caudad; metanotal angles narrow, curved around the tubercles which arise from the first

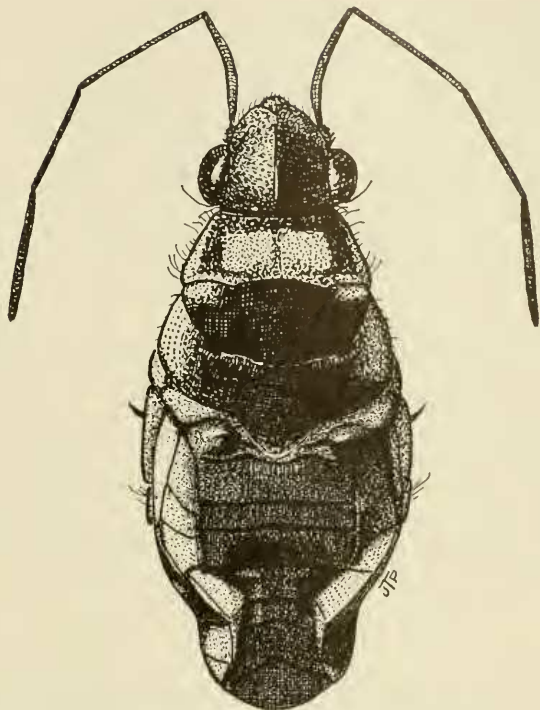


FIG. 2. *Aegilipsovelia origami*, n. gen., n. sp., ♀.

abdominal tergite; abdomen folded in normal female (figure 2), so much so in some specimens that the abdominal apex is almost vertical and the opposing connexival angles almost meet over the dorsum.

Length 3.25 mm., width 1.35 mm.

*Winged forms:* Male similar to apterous male, but darker; dorsum black, wings blackish brown with venation as in *Microvelia*, surpassing apex of abdomen. Pronotum with two yellow transverse spots on fore lobe, posterior margin narrowly marked with orange brown; anterior lobe much shorter than posterior lobe (10/63), marked off medially with a row of deep pits; disc strongly raised, highest at the level of the humeri.

Female similar, but with penultimate connexival segments reflexed over wings, curling the wings into a longitudinal trough apically. (The single alate female was not dissected to determine the character of the first abdominal tergite.)

*Material:* Holotype (apterous male), and paratypes, 15 apterous males, 13 apterous females, 7 nymphs, Mexico, Durango, 7 mi. W Los Bancos, CL 1017, 20 April 1964, J. T. & M. S. Polhemus; allotype (apterous female), and paratypes, 1 apterous male, 2 alate males, 3 apterous females, 1 alate female, Mexico, Durango, Santa Lucia, CL 1019,

same date and collectors. Paratypes will be found in the collections of the author, the University of Colorado Museum and the U.S. National Museum.

In both *A. origami* and *A. libasa*, some males have the genital capsule rotated. This may be due to pairs being in copula when collected, but has not been noticed in *Microvelia*.

The species may be separated by the characters given in the key.

I am indebted to Dr. Jon Herring for his assistance in diagnosing this material; it was he who first discovered the leaf-like structure of the tarsi.

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### DOLICHOPODIDAE FROM THE PATUXENT WILDLIFE REFUGE, MARYLAND, WITH THE DESCRIPTIONS OF THREE NEW SPECIES OF NEURIGONA (DIPTERA)

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ABSTRACT—A list of Dolichopodidae taken in a malaise trap is presented, including several species newly reported from the region and *Neurigona scutitarsis*, also from Pennsylvania, *N. spiculifera*, and *N. smithi*, new species here described by Robinson.

In the spring of 1967 the senior author's colleague David R. Smith maintained a malaise trap in the wooded floodplain of the Patuxent River on the grounds of the Patuxent Wildlife Refuge in Prince Georges

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